

Work Order ID 73420

Wednesday, August 31, 2011 3:16:24 PM



Page 1

Item ID:	D6101-005	Accept		Setup	Start	
Revision ID:						
Item Name:	Saddle Billet			Stop		
Start Date:	8/31/2011	Start Qty:	40.00			
Required Date:	9/14/2011	Req'd Qty:	40.00			
Reference:						
Cust Item ID:						
Customer:						

Approvals:	Process Plan:	<u>CZ</u>	Date:	<u>11/09/01</u>	Tooling:		Date:		Run	Start	
	QC:		Date:		SPC (Y/N):		Date:			Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D6101	Rev B

100		0.00
	PURCHASING	
Purchasing	Memo	0.00
Purchasing	Issue P/O: <u>14819</u>	
	a) Description: Alluminum billet	
	b) 5.00" x 8.250" x 2.50" thick	
	c) Tolerance on all dimensions are +0.030"/-0.000"	
	d) Grain direction along 5.00" length	
	e) Material: 7075-T7351 (QQ-A-250/12)	
	f) Material certification required	

CZ 11/09/02 40

110	Receive & Inspect for Damage & Mat'l Certs	0.00
Packaging	Memo	0.00
Packaging	Ensure material certification is attached	

P 11/9/7 (20)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			



NOTE: Date & initial all entries




Work Order ID 73420

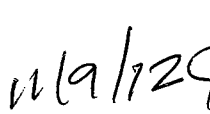
Page 2

Wednesday, August 31, 2011 3:16:24 PM

Item ID: D6101-005 Accept  Setup Start 
Revision ID: Stop 
Item Name: Saddle Billet
Start Date: 8/31/2011 Start Qty: 40.00  Cust Item ID:
Required Date: 9/14/2011 Req'd Qty: 40.00  Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start 
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop 

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120  QC Quality Control	QC6- Inspect dimensions to drawing Memo Ensure Material certification comply to Dwg D6101	0.00 0.00							
				mf 11/09/08		20	0		
130  Packaging Packaging	Identify as per dwg & Stock Location: MAT41 Memo	0.00 0.00							
				mf 11/09/08		20	0		
140  QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00							

11/9/12 
MF 11-09-08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, August 31, 2011 3:16:21 PM

Page 1

Work Order ID: 73420



Parent Item: D6101-005



Parent Item Name: Saddle Billet



Start Date: 8/31/2011

Required Date: 9/14/2011

Start Qty: 40.00

Required Qty: 40.00

Comments: IPP A: ☐01.05.04 ☐New Issue ☐EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-005P  7075-T7351 8.25X5.0X2.5		Purchased	No			110	Each	0.0000	 1	40		8/31/11 (20)	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

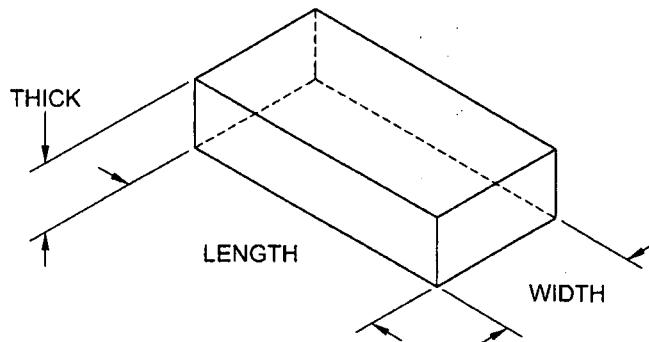
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

SPECIFICATION CONTROL DRAWING



PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

B ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12, QQ-A-250/12, OR ASTM B209

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length
D6101-015	7075-T7351 (QQ-A-250/12)	9.450	6.250	2.500	Along 9.450 Length
D6101-017	7075-T7351 (QQ-A-250/12)	6.350	6.250	2.250	Along 6.350 Length

RELEASED
09/07/15/WB

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 73420

B	ADDED D6101-015/-017, ADD ASTM B209	RF	09.04.23
A	NEW ISSUE	CP	01.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D6101	SHEET 1 OF 1
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	SADDLE BILLET, 7075	NTS
DATE	09.04.23	<small>COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

**Castle Metals®**

A. M. Castle & Co.

PACKING SLIP

Page 1 of 1

Shipment No:966802

Ship From: A. M. Castle & Co. (Canada) Inc. MONTREAL 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		Ship To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped 06-SEP-2011	F.O.B. ORIGIN	Freight Terms Prepaid		Carrier MANITOULIN		BOL No 966802-2	

Shipment Details	Final Destination Branch - MON
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Order No 1606351	Line No 1	Item No 752241.MO	Description 2.5000.PL.7075.T7351.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 8.25 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 5")) X 5 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 5")) - ALUMINUM PLATE SAW SPECIFICATIONS: QQ-A-250/12				
Purchase Order No PER RELEASE 14819		Part Number YOUR ITEM NUMBER: D6101-005		Ordered Qty 20 PCS		Invoice Qty 20 PCS	
Details		DO NOT SHIP - HOLD UNTIL ADVISED					
Delivery No. 89461335	Mill	Heat Number 485646A4	Mech Id	PCS 20.	Width (IN)	Length (IN)	Shipped Qty(LBS) 213.31

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:

Date:

SHIP TO: CASTLE % CASTLE AEROSPACE 3050 SOUTH HYDRAULIC WICHITA, KS 67216
SOLD TO: CAS AERO%AM CASTLE METALS ATTN: BOB OHR %ACCTS PAYABLES 3400 NORTH WOLF ROAD FRANKLIN PARK, IL 60131

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4172642

CUSTOMER PO NUMBER: 15132	WORK PACKAGE:	CUSTOMER PART NUMBER: 6879 AMC A97075-60	SHIP RUN/LOAD ID: 101636/5	GOVT CONTRACT NUMBER:		
KAISER ORDER NO: 1087324	LINE ITEM: 1	SHIP DATE: 29-SEP-2009	ALLOY: 7075	CLAD: BARE	TEMPER: T7351	PRODUCT DESCRIPTION: Sawed Plate
WEIGHT SHIPPED: 44926 LB	QUANTITY: 25 PCS EST.	B/L NUMBER: 2024216	GAUGE: 2.5000 IN	DIAMETER/WIDTH: 48.500 IN	LENGTH: 144.500 IN	

Certified Specifications

AMS 4078/RevG
ASTM B 209/Rev07
BSS 7055/RevA
DPS 4.713/RevAH
GSS16100/RevG/Amd1

AMS-QQ-A-250/12
ASTM B 594/Rev06
CMMP 025/RevS
EAC MS1011/RevE
MMS 159/RevN

AMS-STD-2154
BAC 5439/RevH
CSTI 006/RevC
GAMPS 9101/RevB
PS 21211/RevK

Test Code: 4297

Test Results

Lot: 479610A8 Cast 268

Drop 21

Ingot 2

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	70.7 : 71.3 (487 : 492)	59.1 : 59.5 (407 : 410)	11.2 : 11.6

(ASTM E1004)

(EN 2004-1)

Conductivity %IACS :	41.6 Min	42.0 Max
(MS/M) :	24.1 Min	24.4 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.09	0.18	1.6	0.03	2.4	0.20	5.8	0.04	0.01	0.01	TOT 0.05

**KAISER
ALUMINUM****CERTIFIED TEST REPORT**

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

Serial Number
4172642

Lot: 479709A8 Cast 268 Drop 10 Ingot 2

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	71.5 : 71.9 (493 : 496)	59.8 : 60.2 (412 : 415)	10.7 : 10.8

(ASTM E1004)

(EN 2004-1)

Conductivity %IACS :	40.8 Min	41.3 Max
(MS/M) :	23.7 Min	24.0 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.10	0.20	1.5	0.04	2.4	0.20	5.6	0.03	0.01	0.01	TOT 0.05

Lot: 479742A9 Cast 271 Drop 09 Ingot 4

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	69.4 : 74.8 (479 : 516)	56.4 : 63.9 (389 : 441)	11.1 : 11.7

(ASTM E1004)

(EN 2004-1)

Conductivity %IACS :	38.3 Min	40.9 Max
(MS/M) :	22.2 Min	23.7 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.10	0.20	1.5	0.04	2.5	0.19	5.6	0.03	0.01	0.02	TOT 0.05

**KAISER
ALUMINUM****CERTIFIED TEST REPORT**

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

Serial Number
4172642

Lot: 485604A3 Cast 271 Drop 23 Ingot 2

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	71.8 : 72.0 (495 : 496)	59.9 : 60.4 (413 : 416)	10.6 : 10.9

(ASTM E1004)
(EN 2004-1)

Conductivity %IACS :	41.3 Min	41.3 Max
(MS/M) :	24.0 Min	24.0 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.11	0.21	1.5	0.04	2.5	0.20	5.6	0.04	0.01	0.01	TOT 0.05

Lot: 485622A5 Cast 271 Drop 19 Ingot 2

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	70.9 : 71.0 (489 : 490)	59.1 : 59.5 (407 : 410)	11.3 : 11.3

(ASTM E1004)
(EN 2004-1)

Conductivity %IACS :	40.6 Min	41.9 Max
(MS/M) :	23.5 Min	24.3 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.10	0.21	1.5	0.04	2.4	0.19	5.5	0.04	0.01	0.01	TOT 0.05

**KAISER
ALUMINUM**

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4172642

Lot: 485626A6 Cast 271 Drop 23 Ingot 3

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	71.2 : 71.8 (491 : 495)	59.4 : 60.1 (410 : 414)	10.1 : 11.0

(ASTM E1004)
(EN 2004-1)

Conductivity %IACS :	41.3 Min	41.4 Max
(MS/M) :	24.0 Min	24.0 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.11	0.21	1.5	0.04	2.5	0.20	5.6	0.04	0.01	0.01	TOT 0.05

Lot: 485646A4 Cast 271 Drop 29 Ingot 2

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	70.9 : 74.0 (489 : 510)	59.4 : 63.4 (410 : 437)	11.3 : 11.7

(ASTM E1004)
(EN 2004-1)

Conductivity %IACS :	39.1 Min	41.6 Max
(MS/M) :	22.7 Min	24.1 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.09	0.18	1.4	0.04	2.4	0.20	5.7	0.03	0.01	0.01	TOT 0.05

ALLOY LIMITS

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075 MIN	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

**KAISER
ALUMINUM**

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4172642

TEST NOTES

7075-T7351 plate 3.501-4.000" thick, if
ultrasonically inspected, meets requirements of CMMP025 per
SDR CMMP025-KaiserT-3. 7075-T7351 plate 4.001-5.000" thick,
if ultrasonically inspected, meets requirements of CMMP025
per
SDR CMMP025-KaiserT-2.

Metal represented by this test report was immersion
ultrasonically tested from one side and meets the Class A
and Class B requirements of all specifications referenced
on this test report.

CERTIFICATION

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED IN THE UNITED STATES OF AMERICA OR A QUALIFYING COUNTRY PER DFARS 225.872-1(a), WAS MANUFACTURED IN THE UNITED STATES OF AMERICA, AND MEETS THE REQUIREMENTS OF DFARS 252.225 FOR DOMESTIC CONTENT. THIS MATERIAL HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF KAISER ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTIRE ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED.

BILL POYNOR, LABORATORIES SUPERVISOR

